

### **REMARKS**

The Office Action dated April 4, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 11, 13-15 and 17-18 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claim 33 has been added. No new matter has been added. Claims 1-33 are submitted for consideration.

Claims 3, 4, 7-10, 13, 14, 17-20, 23-25 and 27-30 were indicated to be allowable. Applicants thank the Examiner for indicating the allowability of these claims. However, based on the arguments presented below, Applicants request that claims 3, 4, 7-10, 13, 14, 17-20, 23-25 and 27-30 be allowed in the present form and further request allowance of all of the presently pending claims.

Claims 1, 2, 5, 6, 11, 12, 15, 16, 21, 22, 36 and 32 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,533,067 to Jamal (hereinafter Jamal). The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in claims 1, 2, 5, 6, 11, 12, 15, 16, 21, 22, 36 and 32, and newly added claim 33.

Claim 1, upon which claims 2-10 depend, recites a method including determining from a received signal at least one variable representing statistical characteristics of a channel and determining a prefilter using at least one variable representing the statistical

characteristics of the channel. The method also includes adapting sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

Claim 11, upon which claims 12-20 depend, recites a prefiltering arrangement including a first determination unit configured to determine, from a received signal, at least one variable representing statistical characteristics of a channel and a second determination unit configured to determine a number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel. The arrangement also includes an adaptation unit configured to adapt sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

Claim 21, upon which claims 22-30 depend, recites a base station including a first determination unit configured to determine from a received signal at least one variable representing statistical characteristics of the channel and a second determination unit configured to determine a number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel. The base station also includes an adaptation unit configured to adapt sample rate of a prefilter output of the prefilter for a channel estimator.

Claim 31 recites a prefiltering arrangement including first determination means for determining from a received signal at least one variable representing statistical characteristics of a channel and second determination means for determining the number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel. The arrangement also includes adaptation means for

adapting sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

Claim 32 recites a base station including first determination means for determining from a received signal at least one variable representing statistical characteristics of a channel and second determination means for determining the number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel. The base station also includes adaptation means for adapting sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

As outlined below, Applicants submit that the cited reference of Jamal does not teach or suggest the elements of claims 1, 2, 5, 6, 11, 12, 15, 16, 21, 22, 36 and 32, and newly added claim 33.

Jamal discloses that in a digital signal transmission system, a receiver receives a signal, wherein the signal bandwidth of the system exceeds the system symbol rate. A correlation and sampling circuit receives a baseband signal, samples the signal eight times per symbol time, correlates, generates a channel estimate and down-samples the sampled signal to form an observed signal. This signal is filtered in a prefilter, whose output is sampled at symbol rate and the obtained signal is delivered to a channel equalizer which performs a viterbi algorithm with non-quadratic metric calculation and generates estimated symbols. A channel estimation filter receives a symbol sequence which contains alternate zero-value symbols and the estimated symbols and generates an estimated signal. An error signal is generated and used to adapt the channel estimate and

also to generate weight factors. The coefficients of the prefilter are generated as a function of the channel estimate and the weight factors. Coefficients are generated in a metric calculation filter, by convolving the channel estimate with the prefilter and are used to generate the estimated symbols. The transmission channel, excluding the prefilter, is estimated explicitly so as to enable fast channel changes to be followed. The use of the weight factors enables a short channel estimate to be used. The insertion of the zero-value symbols simplifies adaptation of the channel estimate.

Applicants submit that Jamal does not teach or suggest each of the elements of claims 1, 2, 5, 6, 11, 12, 15, 16, 21, 22, 36 and 32, and newly added claim 33. The pending claims of the present invention, in part, recite determining from a received signal at least one variable representing statistical characteristics of the channel and determining a prefilter by means of at least one variable representing the statistical characteristics of the channel. Although Col. 7, line 60-Col. 8 line 23 of Jamal discloses that is signal is received and sampled by a first sampler 21 and delivered to a correlating circuit 23 where a first channel estimate F for the observed symbol sequence is generated, there is no teaching of determining at least one variable representing statistical characteristics of the channel and determining a prefilter by means of at least one variable representing the statistical characteristics of the channel. Jamal discloses that a prefilter circuit includes a prefilter 26 and that the observed signal passes the prefilter and is down sampled to a symbol rate. See Col. 9, lines 30-37 of Jamal. However, there is no teaching in Jamal that the prefilter is determined by means of at least one variable representing the

statistical characteristics of the channel. There also is no teaching of adapting sample rate of the prefilter output for a channel estimator, as recited in the pending claims. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §102(b) should be withdrawn because Jamal fails to teach or suggest each feature of claims 1, 2, 5, 11, 12, 15, 21, 22 and 25.

As noted previously, claims 1-33 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-33 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal  
Registration No. 43,828

**Customer No. 32294**  
SQUIRE, SANDERS & DEMPSEY LLP  
14<sup>TH</sup> Floor  
8000 Towers Crescent Drive  
Tysons Corner, Virginia 22182-2700  
Telephone: 703-720-7800  
Fax: 703-720-7802

APN:ksh

Enclosures: Petition for Extension of Time  
Additional Claim Fee Transmittal  
Check No. 16747